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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
WON, MICHAEL YOUNG

ART UNIT	PAPER NUMBER
2155	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/612,947	DONESCU ET AL.
	Examiner	Art Unit	
	MICHAEL Y. WON	2155	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>03 March 2008</u>.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-40</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-40</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☒ All b) ☐ Some * c) ☐ None of:

        1. ☒ Certified copies of the priority documents have been received.

        2. ☐ Certified copies of the priority documents have been received in Application No. _____.

        3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1.   This action is in response to the amendment filed December 18, 2007 and

Request for Continued Examination filed March 3, 2008.

2.   Claims 1, 4, and 19 have been amended.

3.   Claims 1-40 have been examined and are pending with this action.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly
claiming the subject matter, which the applicant regards as his invention.

4.   The rejection of claim 4 previously rejected under 35 U.S.C. 112, second

paragraph, as being indefinite for failing to particularly point out and distinctly claim the

subject matter which applicant regards as the invention, has been withdrawn.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public
use or on sale in this country, more than one year prior to the date of application for patent in the United
States.

5.   Claims 1-14, 18-32 and 36-40 are rejected under 35 U.S.C. 102(b) as being

anticipated by Carter et al. (US 6,026,474 A).

INDEPENDENT:

As per **claim 1**, Carter teaches a method of processing a digital signal identified

by a unique identifier in a distributed communication network composed of several

communication apparatuses, comprising the steps of:

storing at least a part of the data constituting the identified digital signal in a local

storage located in one of the apparatuses (see col.2, lines 56-58: "method for locally

caching"; and col.4, lines 1-2: "each node may be responsible for storing particular

element or elements of the structured store of data"); and

managing two descriptors related to the unique identifier within the local storage

(see col.3, lines 63-65: "data control program which accesses and manages the

structured store of data"), including a first descriptor which provides a description

representing the structure and the organization of the data constituting the identified

digital signal (see Fig.3 & Fig.4; and col.7, lines 27-29: "stream descriptors 130. This

descriptor 130 is a pointer to a block of data containing directory entries for File 1

through File 3") and a second descriptor which is dependent on the first descriptor and

representative of the part of the data stored in the local storage (see Fig.4; and col.7,

lines 43-50: "file Inodes or file descriptor 110 that includes various file attributes"; and

col.9, lines 31-35: "Files are described in the file system 60 by objects called Inodes").

As per **claim 19**, Carter teaches a device for processing a digital signal identified
by a unique identifier in a distributed communication network composed of several
communication apparatuses, comprising:

means of storing at least a part of the data constituting the identified digital signal in
a local storage located in one of the apparatuses (see col.2, lines 56-58: "method for
locally caching"; and col.4, lines 1-2: "each node may be responsible for storing
particular element or elements of the structured store of data"); and

means of managing two descriptors related to the unique identifier within the
local storage (see col.3, lines 63-65: "data control program which accesses and
manages the structured store of data"), including a first descriptor which provides a
description representing the structure and the organization of the data constituting of the
identified digital signal (see Fig.3 & Fig.4; and col.7, lines 27-29: "stream descriptors
130. This descriptor 130 is a pointer to a block of data containing directory entries for
File 1 through File 3") and a second descriptor which is dependent on the first descriptor
and representative of the part of the data stored in the local storage (see Fig.4; and
col.7, lines 43-50: "file Inodes or file descriptor 110 that includes various file attributes";
and col.9, lines 31-35: "Files are described in the file system 60 by objects called
Inodes").

DEPENDENT:

As per **claims 2 and 20**, which respectively depend on claims 1 and 19, Carter
teaches of further comprising updating the second descriptor as a function of the data

representative of the identified digital signal received and stored in the local storage
(see col.9, lines 21-25: "the entry is updated the next time the Inode is updated").

As per **claims 3 and 21**, which respectively depend on claims 1 and 19, Carter
teaches of further comprising sending from a server apparatus, a notification of
availability of the identified signal to at least one client apparatus in the communication
network, including the first descriptor of the identified signal (see col.4, lines 65-67:
"Each of the shared memory subsystems… provides its nodes with access to the
addressable shared memory space" and col.5, lines 58-61: "provide information to their
respective nodes that is indicative of this change to the structured store of data").

As per **claims 4, 5, 22, and 23**, which respectively depend on claims 3, 1, 21 and
19, Carter teaches of further comprising steps, performed by a server apparatus in the
communication network, of:

receiving from a client apparatus a request containing the unique identifier (see
col.19, lines 39-41: "receives requests to manipulate pages of the shared memory
space"); and

sending to the client apparatus the second descriptor related to the unique
identifier and representative of the data relative to the identified signal stored in the local
storage, if the unique identifier is known by said server apparatus (see col.8, lines 59-
65: "duplicating file Inode information in directory entries").

As per **claims 6 and 24**, which respectively depend on claims 5 and 23, Carter
teaches of further comprising steps, performed by a server apparatus in the
communication network, of:

receiving from a client apparatus one request of data relative to the identified signal (see col.19, lines 39-41: "receives requests to manipulate pages of the shared memory space");

retrieving in the local storage at least part of the requested data (see col.7, lines 32-35: "retrieve the various 4 kilobyte pages"); and

sending to the client apparatus the at least part of the requested data (see col.28, lines 13-16: "server transmits the Web page 402 to the terminal 420").

As per **claims 7 and 25**, which respectively depend on claims 2 and 20, Carter teaches of further comprising steps, performed by a server apparatus in the communication network, of:

receiving from a communication apparatus one request of data relative to the identified signal and one second descriptor representative of the data, which is locally present on the client apparatus at the origin of the request (see col.7, lines 32-39; and col.19, lines 39-41: "receives requests to manipulate pages of the shared memory space");

retrieving in the local storage at least part of the requested data (see col.7, lines 32-35: "retrieve the various 4 kilobyte pages");

sending to the client apparatus at the origin of the request the at least part of the requested data (see col.28, lines 13-16: "server transmits the Web page 402 to the terminal 420"); and

updating the second descriptor as a function of said at least part of requested
data, which has been sent (see col.9, lines 21-25: "the entry is updated the next time
the Inode is updated").

As per **claims 8 and 26**, which respectively depend on claims 5 and 23, Carter
teaches of further comprising steps, performed by a server apparatus in the
communication network, of: sending to another server apparatus the updated second
descriptor and the request of data which has been modified to take into account the at
least part of the requested data which has been previously sent by the server apparatus
(see col.27, lines 61-64: "redirect"; and col.28, lines 54-58: "redirect").

As per **claims 9 and 27**, which respectively depend on claims 1 and 19, Carter
teaches of further comprising steps, performed by a client apparatus in the
communication network prior to said storing step, of:

receiving the first descriptor representative of the identified digital signal (implicit:
see col.15, lines 42: "The system can generate or receive global address signals"); and

storing the first descriptor in the local storage (see col.8, lines 63-65: "is stored
with the file stream descriptors").

As per **claims 10 and 28**, which respectively depend on claims 9 and 27, Carter
teaches of further comprising steps, performed by a client apparatus in the
communication network, of receiving a notification of availability of the data relative to
the unique identifier (see col.4, lines 65-67: "Each of the shared memory subsystems…
provides its nodes with access to the addressable shared memory space" and col.5,

lines 58-61: "provide information to their respective nodes that is indicative of this
change to the structured store of data").

As per **claims 11 and 29**, which respectively depend on claims 9 and 27, Carter
teaches of further comprising steps, performed by a client apparatus in the
communication network, of sending to at least one server apparatus at least one
request containing the unique identifier (see col.7, lines 32-35: "locate and retrieve").

As per **claims 12 and 30**, which respectively depend on claims 11 and 29, Carter
teaches of further comprising steps, performed by a client apparatus in the
communication network, for retrieving at least a part of the digital signal, of:

receiving at least one second descriptor representative of the data locally present
on at least one server (see col.8, lines 59-63: "duplicating file Inode"); and

issuing at least one request of data, directed to said at least one server, as a
function of the first descriptor and the at least one second descriptor (see col.7, lines
32-35: "locate and retrieve").

As per **claims 13 and 31**, which respectively depend on claims 12 and 30, Carter
teaches of further comprising steps, performed by a client apparatus in the
communication network, of receiving from at least one server at least part of the data
constituting the identified signal and which has been specified in the previously sent
request of data (see col.7, lines 32-35: "locate and retrieve").

As per **claims 14 and 32**, which respectively depend on claims 9 and 27, Carter
teaches of further comprising steps, performed by a client apparatus in the
communication network, of sending to at least one server at least one request or data

as a function of the received first descriptor, and the second descriptor representative of the data locally present on the client apparatus (see col.7, lines 32-35: "locate and retrieve").

As per **claims 18 and 36**, which respectively depend on claims 15 and 33, Carter further teaches wherein the second descriptor has a hierarchical structure (see Fig.3 and Fig.4).

As per **claim 37**, Carter teaches of further comprising a device according to claim 19 (see Fig.1).

As per **claim 38**, Carter further teaches an information storage means which can be read by a computer or a microprocessor containing code instructions of a computer program for executing the steps of the method according to claim 1 (see col.17, lines 27-33).

As per **claim 39**, Carter further teaches a partially or totally removable information storage means which can be read by a computer or a microprocessor containing code instructions of a computer program for executing the steps of the method according to claim 1 (see col.4, lines 12-15 & 18-22).

As per **claim 40**, Carter further teaches a computer program loadable onto a programmable apparatus, comprising sequences of instructions or portions of software code for implementing the steps of the method according to claim 1, when said computer program loaded and executed by the programmable apparatus (see col.17, lines 27-33).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6.   Claims 15-17 and 33-35 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Carter et al. (US 6,026,474 A) in view of Kalra et al. (US 5,953,506

A).

As per **claims 15 and 33**, which respectively depend on claims 1 and 19, Carter

does not explicitly teach wherein the digital signal is in multi-resolution format.

Kalra teaches wherein the digital signal is in multi-resolution format (see col.3,

line 66-col.4, line 6: "adaptive (or scalable) digital streams").

It would have been obvious to a person of ordinary skill in the art at the time the

invention was made to modify the system of Carter in view of Kalra so that the digital

signal is in multi-resolution format. One would be motivated to do so because Carter

teaches that the "data can be any form of data accessible over a network" such as

"image files" (see col.27, line 65-col.28, line 3).

As per **claims 16 and 34**, which respectively depend on claims 15 and 33,

although Carter teaches wherein the first descriptor is representative of the data (see

col.7, lines 44-46: "that include various file attributes 112"), Carter does not explicitly

teach representing all available resolutions and their representation units (precincts) in a

compressed format.

Kalra teaches representing all available resolutions and their representation units (precincts) in a compressed format (see col.4, lines 24-30: "based upon that desired resolution profile, select the appropriate base and additive streams from the available adaptive digital stream"; and col.5, lines 63-64 & col.6, lines 9-10: "compression").

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the system of Carter in view of Kalra by implementing representing all available resolutions and their representation units (precincts) in a compressed format. One would be motivated to do so because Carter teaches that the "data can be any form of data accessible over a network" such as "image files" (see col.27, line 65-col.28, line 3) and further teaches that the files are described in the system by objects called Inodes (i.e., descriptors) (see col.9, lines 32-33).

As per **claims 17 and 35**, which respectively depend on claims 16 and 34, Carter and further teach wherein the second descriptor is representative (see col.9, lines 32-35: "described... by objects called Inodes... ") of the units of the compressed format (precincts) (see claims 16 and 34 rejection above for motivation) as referenced in the first descriptor (see col.7, lines 45-49: "points to a data stream descriptor").

Response to Arguments

6.   Applicant's arguments with respect to claims 1 and 19 have been considered but are moot in view of the new ground(s) of rejection.

After further consideration, Carter's "stream descriptor" teaches the first descriptor as claimed and Carter's "Inode" teaches the second descriptor as claimed.

Furthermore, these differences are only found in the nonfunctional descriptive material and are not functionally involved in the steps recited. Plural descriptors are taught by Carter regardless of the data within the descriptors. Thus this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability, see *In re Gulack*, 703 F.2d 1381, 1385, 217 USPQ 401, 404 (Fed. Cir. 1983); *In re Lowry*, 32 F.3d 1579, 32 USPQ2d 1031 (Fed. Cir. 1994). Such data does not functionally relate to the steps in the method claimed and the subjective interpretation of the data does not patentably distinguish the claimed invention. The claims must explicitly recite the functionality of these descriptors to overcome prior art.

Conclusion

7.   For the reasons above, claims 1-40 have been rejected and remain pending.

8.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL Y. WON whose telephone number is (571)272-3993. The examiner can normally be reached on M-Th: 10AM-8PM.

         If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saleh Najjar can be reached on 571-272-4006. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael Won/

Primary Examiner

March 27, 2008